

**ABSTRACT**

To perform conformance checking of a software implementation with a (possibly non-deterministic) specification, a software implementation and a software specification are applied to produce a CT enabled implementation. Nondeterministic choices of the software specification result in assigning a corresponding choice of the CT enabled implementation to a variable. The CT enabled implementation includes a test that the variable then comprises one of the nondeterministic choices of the software specification.

To perform conformance testing where the software specification includes ordered steps, and calls to methods of other classes (mandatory calls), a software object is produced and organized such that each step of the software specification has a corresponding code section in the software object. The software object includes instructions to generate an identification of a mandatory call comprised by the software specification, and instructions to test that the state of the implementation conforms to the software specification during the mandatory call.